

Preliminary Ecological Appraisal

Ellenor Hospice, Gravesend

25 October 2021

Preliminary Ecological Appraisal

Ellenor Hospice, Gravesend

25/10/2021

Faithful and Gould

Euston Tower

286 Euston Road

London

NW1 3AT

Document Control:

Project no.	Project
8414	Ellenor Hospice, Gravesend

Rev	Written By:	Checked By:	Authorised By:	Date:
Rev0	Richard Lees	Caleb Fry	Richard Schofield	12 December 2018
Rev1	Eleanor Hale	Richard Schofield	Richard Schofield	25 October 2021

This report has been prepared for the exclusive use of the commissioning party and may not be reproduced without prior written permission from Phlorum Limited.

All work has been carried out within the terms of the brief using all reasonable skill, care and diligence.

No liability is accepted by Phlorum for the accuracy of data or opinions provided by others in the preparation of this report, or for any use of this report other than for the purpose for which it was produced.

Phlorum Limited

Southern Office: Unit 12, Hunns Mere Way, Brighton, BN2 6AH

T: 01273 307 1670 E: info@phlorum.com W: www.phlorum.com

Contents

1.	Introduction.....	1
2.	Methodology.....	1
3.	Baseline Conditions	5
4.	Evaluation	13
5.	Recommendations.....	17
6.	Conclusions.....	21
7.	References	22
8.	Glossary of Terms.....	23

Appendices

Appendix A – Habitat map

Appendix B – Photographs and target notes

Appendix C – Legislation

Appendix D – Plant species list

Appendix E – Suggested compensatory planting

Appendix F – Bird and bat box designs

Non-technical Summary

Phlorum Ltd was commissioned by Faithful and Gould to undertake a Preliminary Ecological Appraisal which was carried out at Ellenor Hospice on 4th October 2021 to determine whether any ecological constraints could affect the proposed works for the site.

Current proposals are for the refurbishment and extension of its current facility. The survey area extended over approximately 0.7 hectares (ha).

The main findings of the surveys are as follows:

- 🌿 The site is not subject to any statutory designations for nature conservation.
- 🌿 The closest statutory site is Bakers Hole Special Scientific Interest (SSSI) located approximately 3.5km northwest of the site at its closest point.
- 🌿 The site was dominated by the main hospice and its associated hardstanding features such as the car park and garden paths. Additionally, there were regions of amenity grassland, introduced shrub, planted beds, and scattered trees.
- 🌿 No protected species surveys are recommended at this stage.
- 🌿 A precautionary approach to site clearance in respect to breeding birds, badgers, stag beetles and hedgehogs is recommended to minimise any adverse impacts on this species group.
- 🌿 Details regarding specific mitigation, including further surveys and precautionary working practices together with habitat enhancement measures are provided below.

1. Introduction

Background

- 1.1 Phlorum Ltd has been commissioned by Faithful and Gould to undertake a Preliminary Ecological Appraisal, to inform the potential ecological constraints of proposed future development of the land at Ellenor Hospice (hereafter referred to as “the site”).
- 1.2 The purpose of the Preliminary Ecological Appraisal was:
 - 🌿 to identify the major habitats present;
 - 🌿 to identify the potential for any legally protected species to be present; and
 - 🌿 to recommend any additional ecological surveys, if required.
- 1.3 As part of the assessment, a desktop review and a site visit were carried out. The results of which were used to assess the nature conservation importance of the site and the potential of the site to support protected species.
- 1.4 This report has been compiled in accordance with current guidelines (British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and CIEEM, 2017 and 2018).
- 1.5 It is understood that current design plans involve the refurbishment and extension of its current facility.

Site Location

- 1.6 The site is located off Coldharbour road in Gravesend, Kent. The site comprises areas of hardstanding, amenity grassland, scattered trees and planted shrubs. Agricultural land bounds the site to the east. An urban, residential landscape borders the site to the west, north and south.
- 1.7 Within the wider surrounds, a patchwork of urban, residential land use and agricultural fields dominate. The town of Tilbury is located approximately 4.5km north across the river Thames with the village of Thong located 3.6 km south east of the site.
- 1.8 The National Grid Reference for the centre of the site is TQ 63859 71776. The survey area extended over approximately 0.7 hectares (ha).

2. Methodology

Desk Study & Consultations

Database and Map Search

- 2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site. The database and map search was based on available information provided by the following sources:
- 🌿 Kent and Medway Biological Records centre (KMBRC, 2021);
 - 🌿 Multi-Agency Geographical Information for the Countryside (MAGIC, 2021);
 - 🌿 Ordnance Survey mapping;
 - 🌿 Aerial photography; and
 - 🌿 The Woodland Trust online Ancient Tree Inventory.

Review of Previous Report

- 2.2 The desk study has involved the review of the following previous reports carried out for the site:
- 🌿 Preliminary Ecological Appraisal (Phlorum 2018).

Habitat Survey and Assessment

- 2.3 Phlorum Limited carried out an ecological survey of the site on 4th October 2021. The survey was carried out by a suitably qualified ecologist, Eleanor Hale who has 2 years of experience undertaking ecological surveys. The weather conditions during the survey were warm, with a slight breeze and intermittent showers.
- 2.4 The field survey comprised a walkover inspection of the land and habitats present. The survey followed standard Phase 1 survey methodology (JNCC, 2010) and covered all accessible parts of the site, including boundary features. Habitats were described and mapped (Figure 1: Appendix A). A list of plant species was compiled, together with an estimate of abundance made according to the DAFOR scale (Appendix D).
- 2.5 This assessment provides information on the habitats in the survey area and identifies actual or potential presence of legally protected or otherwise notable species/habitats in or immediately adjacent to the site.
- 2.6 Target notes highlighting a particular feature of ecological interest are provided in Appendix B, with associated photographs.

- 2.7 Scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (2010) for vascular plant species.

Protected Species Assessment

- 2.8 The potential for the site to provide habitat for protected species was assessed from field observations in conjunction with results of the desk study. The site was inspected for indications of the presence of protected species including:
- 🌿 Habitat considered suitable to support widespread reptile species including areas with a scrub/grassland mosaic and potential hibernation sites;
 - 🌿 On-site ponds offering potential breeding opportunities for great crested newts (*Triturus cristatus*) and the presence of suitable terrestrial habitat including hedgerows and rough grassland;
 - 🌿 The presence of features in, and on trees, indicating potential for roosting bats Chiroptera, including knot and rot holes, loose bark. Secondary evidence of bats including staining, droppings and feeding remains were also looked for;
 - 🌿 The presence of nesting habitat for breeding birds, including mature trees, dense scrub and hedgerows and direct evidence of bird nesting including bird song, old nests etc.;
 - 🌿 Habitats considered suitable to support badger (*Meles meles*) setts, and evidence in the form of hair, pathways and latrines;
 - 🌿 Presence of woodland and or hedgerows providing suitable habitat to support hazel dormice (*Muscardinus avellanarius*); and
 - 🌿 Riparian habitat supporting suitable features for water voles (*Arvicola amphibius*) and otters (*Lutra lutra*); and the
 - 🌿 Presence of nationally protected and/or invasive plants.
- 2.9 The potential presence for protected species is categorised as **Negligible, Low, Moderate, High** or **Present**, based on the findings of the field survey and on the evaluation of existing data.
- 2.10 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species or mitigation should be recommended.

Caveat

Data Search Constraints

- 2.11 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Survey Constraints

- 2.12 Ecological surveys are limited by factors that affect presence of plants and animals such as seasonality. Whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the environment.
- 2.13 The survey was carried out in the October and therefore many species may not have been visible above ground or readily identifiable.
- 2.14 The appraisal does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species. This survey provides a preliminary view of the likelihood of protected species occurring on the site based on the suitability of the habitat, known distribution of the species in the local area and any direct evidence on the site. It is therefore used as a tool to recommend further protected species surveys (or other species of significant nature conservation interest) if on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.
- 2.15 It is however considered that the survey was sufficiently rigorous to assess the ecological value of the site.

Limitations

- 2.16 This appraisal also does not constitute as a full invasive species survey. All surveys are subject to the conditions on site at the time of the survey. Site surveys are non-intrusive and rely on the visual identification of aboveground growth. If parts of a site are inaccessible then these areas can often not be surveyed, unless they can be viewed from other areas. If any aboveground growth is being managed or has been disturbed or covered, or the below ground growth is dormant, then it may be impossible for us to identify invasive plants in these areas during our non-intrusive survey.

3. Baseline Conditions

Aerial Photography and OS Maps

- 3.1 Aerial photographs and OS maps show that within the immediate vicinity of the site there is residential houses, a supermarket, with some pockets of woodland and grassland.
- 3.2 Within 500m of the site, there appears to be two ponds, which are balancing ponds, both located 450-500m southeast of the site.
- 3.3 In the wider surrounds, agricultural fields, hedgerows, woodland blocks, and treelines dominate mainly to the south, and with more residential houses with gardens and small grass greens to the northwest.
- 3.4 The A2 runs around 400m to the south of the site.

Statutory and Non-Statutory Designated Sites

Statutory Sites

- 3.5 The site is not subject to any statutory designations. The closest statutory site is Bakers Hole Special Scientific Interest (SSSI) located approximately 3.5km northwest of the site at its closest point. Table 1 provides a list of the closest Statutory sites to the site.

Table 1: Statutory Sites within 2km of the site

Site Name	Reason for Designation	Area (ha)	Distance from the Site
Bakers Hole SSSI	This is a key Pleistocene site exposing a complex sequence of periglacial and temperate climate deposits, including solifluction, freshwater and possible estuarine deposits. These are associated with the Ebbsfleet valley, and they have yielded mammals, molluscs and two different Palaeolithic industries, namely a well established flake industry and worked bone fragments. This site contains no qualifying features relevant to the site of the development works.	6.9	3.5 northwest

Swanscombe Peninsula SSSI	The site is a complex of open mosaic habitats on previously developed land and traditional estuarine habitats located near and within the River Thames, Kent. Habitats include chalk pits, free-draining grassland, scrub, wetlands, grazing marsh, mudflats and saltmarsh. The following features are nationally important; assemblages of invertebrates chiefly associated with bare sand and chalk; open short swards; open water on disturbed mineral sediments; and saltmarsh and transitional brackish marsh; and two diverse assemblages of breeding birds: one associated with lowland open waters and their margins, lowland fen and lowland damp grassland; the other with lowland scrub.	264	4.3km northwest
Swanscombe Skull Site SSSI	Barnfield Pit, Swanscombe, the only site in the UK to yield unquestionable Lower Palaeolithic human remains, is probably the most famous and arguably the most important site in the British Pleistocene. The palaeontological record (molluscs, mammals and, somewhat controversially, pollen) provides evidence of climatic change, with at least one major interglacial represented. This site contains no qualifying features relevant to the site of the development works.	3.9	4.6km west

Non-statutory Sites

- 3.6 The only non-statutory site within 2km is England's Green Belt. There are no non-statutory sites within 2km of the site. London's Metropolitan Green Belt covers around 513,860 hectares over Greater London and surrounding counties. It lies around 0.3k south of the development site. The designation of the Green Belt is to reduce the amount of urbanisation.
- 3.7 This designation is not relevant to the proposed development works.

Ancient Woodland

- 3.8 There is no ancient woodland covering any part of the site or immediately adjacent to the site. No trees on or adjacent to the site are listed on the Woodland Trusts' Ancient Tree Inventory.

Review of Previous Reports

- 3.9 The Preliminary Ecological Appraisal (PEA) conducted by Phlorum (2019) concluded that the site was dominated by the hospice building and associated hardstanding, such as the car park and garden paths. There were also regions of amenity grassland, scattered trees and planted shrub. Habitats within the proposed development area were of ecological value within the immediate vicinity only. The site offered moderate potential for breeding birds and low potential for foraging badgers. The PEA considered no further surveys were necessary and precautionary approach in regard to breeding birds and foraging badgers is considered sufficient to protect these species.

Habitats

Site Summary

- 3.10 The site was dominated by the main hospice and its associated hardstanding features such as the car park and garden paths. Additionally, there were regions of amenity grassland, introduced shrub, planted beds, and scattered trees.
- 3.11 The main habitats recorded within the site are described below. Additional details are shown on the habitat survey plan in Appendix A, and the target notes are listed in Appendix B.

Buildings

- 3.12 There were two buildings on site. The main hospice building (See B1 and Photograph 1 in Appendix A and B respectively) was a two storey, brick structure featuring a ceramic tiled roof with wooden soffits and fascias. The windows were all double glazed pvc construction. The brickwork and roof tiles were in good condition, lacking features such as cracks or holes in which bats could roost. There were bird boxes fixed to the walls of B1 (Photograph 3 in Appendix B)
- 3.13 There was also a small single-story unit (See B2 and Photograph 2 in Appendix A and B respectively) within in the garden of the hospice.

Hardstanding

- 3.14 There are areas of tarmac hardstanding on site, with the access road and roundabout onto Coldharbour Road (Photograph 4 in Appendix B), as well as the car park (Photograph 5 in Appendix B). Throughout the hospice's gardens (south and west of the building) there was also paved footpaths (Photograph 6 in Appendix B).

Amenity Grassland

- 3.15 The gardens of the hospice had cover shortly mown amenity grassland (Photograph 7 in Appendix B). There was also amenity grassland present around the west boundary.
- 3.16 Species present were ribwort plantain (*Plantago lanceolata*), creeping cinquefoil (*Potentilla reptans*), common yarrow (*Achillea millefolium*), autumn hawkbit (*Scorzonoides autumnalis*), common dandelion (*Taraxacum officinale*) and common daisy (*Bellis perennis*).

Introduced Shrub

- 3.17 Introduced shrub was present in blocks across the site (Photograph 8 in Appendix B), for example in the car park and along the boundaries of the hospice's garden.
- 3.18 Species present were common lavender (*Lavandula angustifolia*), catnip (*Nepeta cataria*), blue curls (*Trichostema lanatum*), grey-leaved cistus (*Cistus albidus*), common dogwood (*Cornus sanguinea*), Japanese spindletree (*Euonymus japonicus*), cotoneaster (*cotoneaster* sp.), common thyme (*Thymus vulgaris*), common box (*Buxus sempervirens*), shore spurge (*Euphorbia glauca*), cherry laurel (*Prunus laurocerasus*), Asiatic jasmine (*Trachelospermum asiaticum*), leatherleaf viburnum (*Viburnum rhytidophyllum*) and sweet woodruff (*Galium odoratum*).

Raised Planted Bed

- 3.19 There was large, raised beds along the paved footpaths of the hospice's garden (See Photograph 9 in Appendix B).
- 3.20 Species present were garden lady's mantle (*Alchemilla mollis*), pot marigold (*Calendula officinalis*), woolly hedgenettle (*Stachys byzantina*), geranium (*Geranium* sp.), globe thistle (*Echinops* sp.), ivy geranium (*Pelargonium peltatum*), field bindweed (*Convolvulus arvensis*), garden cosmos (*Cosmos bipinnatus*), pamphas grass (*Cortaderia selloana*), elephants ears (*Bergenia crassifolia*), rosemary (*Salvia rosmarinus*) and garden sage (*Salvia officinalis*).

Scattered Trees

- 3.21 There were scattered trees across the entire site. Most densely located along the south eastern boundary (Photograph 10 in Appendix B). There were also scattered trees on the boundary that runs along Coldharbour Road (Photograph 11 in Appendix B). The trees were rooted below amenity grassland.
- 3.22 Commonly identified species were Norway maple (*Acer platanoides*), field maple (*Acer campestre*) and sycamore maple (*Acer pseudoplatanus*). Other tree species present were hawthorn (*Crataegus monogyna*), wild cherry (*Prunus avium*), European ash (*Fraxinus excelsior*), fraser fir (*Abies fraseri*), and silver birch (*Betula pendula*).

Target Note (TN)

TN1 – Vegetation/Log Pile

- 3.23 A pile of vegetation litter and logs was noted in the southeast corner of the site. (see TN1 and Photograph 12 in Appendix A and B respectively).

TN2 – Cotoneaster sp.

- 3.24 Cotoneaster was noted across the site within the areas of introduced shrub. (see TN2 and Photograph 13 in Appendix A and B respectively).

TN3 – Cherry Laurel (Prunus laurocerasus)

- 3.25 A stand of cherry laurel was noted within the areas of introduced shrubs on the site (see TN3 and Photograph 14 in Appendix A and B respectively)

Protected Species

- 3.26 Legislation relating to the protected species referred to in this section is included in Appendix C.

- 3.27 The following paragraphs detail the suitability of the on-site habitats to support protected species and include information from the data search for protected, rare and otherwise notable species returned within a 2km radius.

Reptiles

- 3.28 The data search returned recent (post 2004) records for widespread reptiles including common lizard (*Zootoca viviparia*), slow-worm (*Anguis fragillis*) and grass snake (*Natrix natrix*), within 2km of the site.

- 3.29 Widespread reptiles typically favour a mosaic of habitats including rough grassland, scrub and tall ruderal vegetation that provide a structural diversity to enable basking, foraging, and hibernating. The habitat on site was not optimal, but the presence of grassland, as well as the vegetation pile located to the south east (TN1) and potentially present vegetation litter around the boundaries could offer potential for reptiles.

- 3.30 Overall the site was assessed as having **low** potential to support reptiles.

Amphibians

- 3.31 The data search showed no recent (post 2004) records of great crested newt within 2km of the site

- 3.32 There were no on-site ponds. There were two ponds located within 500m of the development boundary. However, these ponds were isolated, with barriers such as main roads interspersed between. Such barriers prevent successful great crested newt dispersal.

- 3.33 Most of the survey area was considered to provide negligible habitat suitable to support great crested newts during their terrestrial phase. The site was isolated on all sides by extensive areas of agricultural and urban landscape with few features considered suitable for great crested newts to use for commuting.

- 3.34 Overall, the site was considered to provide **negligible** potential for great crested newts.

Bats

- 3.35 The data search returned recent records (post 2004) for ten different species of bat within 2km of the site, including Daubenton's bat (*Myotis daubentonii*), natterer's bat (*Myotis nattereri*), serotine (*Eptesicus serotinus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), Leisler's bat (*Nyctalus leisleri*), noctule (*Nyctalus noctula*), nathusius' pipistrelle (*Pipistrellus nathusii*) and whiskered bat (*Myotis mystacinus*).
- 3.36 Records included hibernacula and unspecified roosts. The closest records for bats were from 2012 for a common pipistrelle roost located approximately 1.2km west of site.
- 3.37 Neither the buildings nor any on-site trees were considered suitable to support roosting bats due to a lack of any suitable features and, furthermore, the limited amount of connecting habitat isolates the site from habitats within the wider landscape.
- 3.38 Overall the site was considered to provide **negligible** potential for roosting bats and **low** potential for foraging bats.

Birds

- 3.39 A number of Red or Amber listed Birds of Conservation Concern¹ (BoCC) and notable² bird species were returned by the data search and may utilise habitats within the site. Species recorded include hobby (*Falco Subbuteo*), grey partridge (*Perdix perdix*), black-headed gull (*Larus ridibundus*), swift (*Apus apus*) and grey wagtail (*Motacilla cinerea*).
- 3.40 The on-site semi-mature trees and planted shrubs provide suitable nesting habitat for a range of bird species (refer to Target Note 3 on the Habitat Map in Appendix B). There were also bird boxes fixed to the building on site which could be used for roosting.
- 3.41 Overall the site was considered to provide **moderate** potential for breeding birds.

Badgers

- 3.42 The data search returned recent (post 2004) records for badger (*Meles meles*) within 2km of the site, the closest record being located approximately 1.3km south of site.

¹ Birds of Conservation Concern status is prioritised into high concern (Red), medium concern (Amber) and low concern (Green) (Eaton et al, 2009). Red-list species are those that are globally threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and have not shown a substantial recent recovery. Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Green-list species are those that fulfil none of the criteria.

² Notable Birds are based on a list of birds that are particularly scarce or vulnerable either at national or a regional level. The majority of these bird species are designated as Schedule 1 species, under the Wildlife and Countryside Act 1981 (as amended), or listed as red or amber-listed BoCC.

- 3.43 During the survey no setts or secondary signs of badger were found on site. The habitats within the site offered very limited foraging potential, however the agricultural land to the northeast provides both foraging and commuting habitat.
- 3.44 The site was considered to provide **negligible** potential for commuting badger. And **low** potential for foraging badger.

Hazel Dormouse

- 3.45 The data search returned no records for dormouse (*Muscardinus avellanarius*) within 2km of the site.
- 3.46 Dormice are largely arboreal and rely on blocks of diverse woodland and interconnecting hedgerows for survival. This species rarely descends to the ground except to hibernate over winter months at the base of trees. Dormice also favour a range of plants which provide a food source throughout the year. Favoured species include an abundance of hazel (*Corylus avellana*) and honeysuckle (*Lonicera* sp.) together with frequently occurring oak (*Quercus* sp.), hawthorn and bramble amongst other species.
- 3.47 The on-site vegetation lacked the structural diversity or the range of plant species to support dormouse. Furthermore, it is considered that the area is too heavily disturbed to be suitable.
- 3.48 Overall, the site was considered to have **negligible** potential to support hazel dormouse.

Otter & Water Vole

- 3.49 The data search returned no records of otter (*Lutra lutra*) or water vole (*Arvicola amphibious*) within 2km of the site.
- 3.50 The site did not support any suitable habitat for these species as they require riparian habitats and suitable ditches or rivers supporting gently sloping banks suitable for burrow construction together with the presence of aquatic vegetation and areas of open water, providing foraging and cover opportunities.
- 3.51 Overall, the site was considered to provide **negligible** potential to support water voles.

Stag Beetles

- 3.52 The data search returned recent (post 2004) records for stag beetle (*Lucanus cervus*) within 2km of the site. The most recent record for stag beetle was from 2007 and was located approximately 1.2km north-east of site.
- 3.53 Stag beetles require large portions of subterranean dead wood in which to burrow into and for larvae to feed upon. There was a vegetation/log in the southeast of the site, however this suitable habitat is limited in its connectivity. It is also relatively disturbed.
- 3.54 Overall, the site offered **low** potential for stag beetle.

Hedgehogs

- 3.55 The data search showed several records of hedgehogs (*Erinaceus europaeus*) within 2km of the site, with the most recent being from 2010,
- 3.56 Although no direct evidence of hedgehogs was seen during the survey, the habitats on site, such as the short grassland, log piles and leaf litter could provide suitable habitat for them to forage and/or hibernate. Barriers to dispersal (A2) and lack of connectivity between suitable regions limit the site's potential to hedgehogs.
- 3.57 Overall, the site offered **low** potential for hedgehogs.

Invasive Plants

- 3.1 The data search returned recent (post-2006) records of several Invasive Non-Native Species (INNS) that are listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) with potential to colonise on-site habitats. Species include Japanese knotweed (*Reynoutria japonica*), giant hogweed (*Heracleum mantgazzianum*) and Nuttall's waterweed (*Elodea nuttallii*).
- 3.2 *Cotoneaster* is listed on the Schedule 9 of the Wildlife and Countryside Act (1981 amended) and was noted on-site during the survey (see TN2 and Photograph 13 in Appendix A and B respectively).
- 3.3 The GB Non-Native Species Secretariat (GB NNSS) (DEFRA, 2021) also contains a list of invasive species of concern within Great Britain and encourages better co-ordination and partnership working to prevent, reduce and eliminate the impacts caused by INNS.
- 3.4 During the survey cherry laurel was seen (see TN3 and Photographs 14 in Appendix A and B respectively). These species are not listed on the Schedule 9 but are listed on the GB NNSS and should be appropriately controlled.

4. Evaluation

- 4.1 On the basis of the information available from the habitat survey and desk study, the site has been evaluated in terms of its potential for biodiversity, support of protected species and habitats, and the contribution the area makes as part of the wider landscape. The nature conservation value of the site has been assessed following standard criteria developed by CIEEM (2017 and 2018) and in accordance with BS 24040:2013. This is provided below.
- 4.2 The biodiversity value of protected species within the site is a preliminary evaluation based upon the desk study records, habitat suitability and the conservation status of the species in question. It should be noted that where European Protected Species (EPS) or species of Principle Importance for the Conservation of Biodiversity are present on-site they may be valued at a lower level/scale where it is considered likely that populations would not be of sufficient importance to justify designation at a higher level. However, regardless of their biodiversity value, such species are still subject to national and/or European legislation.
- 4.3 Key aspects of relevant planning policy regarding conservation, including an explanation of species referred to as being of 'Principal Importance for Conservation of Biodiversity' and European Protected Species and habitats, are provided in the Legislation section in Appendix C.

Geographic Evaluation

Features of International Importance

- 4.4 Features of International Importance are principally sites covered by international legislation or conventions. The Conservation of Habitats and Species Regulations 2017 (as amended) implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive) in England and Wales. The Regulations mainly deal with the protection of sites with certain habitats and populations of species that are important for nature conservation in a European context, i.e. Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's).
- 4.5 The site is not subject to any international statutory nature conservation designations. The closest site of international importance is the Thames Estuary & Marshes Ramsar site which is located approximately 3.7km northeast of site. The site does not provide any supporting habitat for this designated site.

Features of National Importance

- 4.6 Features of national importance include SSSIs which are designated under the Wildlife and Countryside Act 1981 (as amended). The site is not subject to any national statutory nature conservation designations, and it is not considered that any habitats or populations or assemblages of species within the site would meet the criteria for the designation of SSSIs at an appropriate geographic level³.
- 4.7 Baker's Hole Site of Special Scientific Interest (SSSI) is located approximately 3.5km northwest of the site at its closest point. The site does not provide any supporting habitat for this designated site, as it is a geological SSSI.

Features of Regional (i.e. Kent) Importance

- 4.8 The site is not considered to support any features at this classification level.

Features of District (i.e. Gravesend) Importance

- 4.9 The site is not considered to support any features at this classification level.

Features of Local (i.e. Coldharbour road) Importance

- 4.10 The site is not considered to support any features at this classification level.

Features of Value Immediate Vicinity (c. 250m) of the Project

- 4.11 The site is considered to support limited features at this classification level. These features were confined to shrubs and trees suitable to support nesting breeding birds

Summary

- 4.12 Overall, on the basis of the survey results and the above criteria, habitats within the site are considered to be of limited ecological value on an immediate scale. The site provides moderate potential to support breeding birds, and low potential to support reptiles, stag beetles and hedgehogs.

Local Plan Evaluation

- 4.13 It is considered that the Gravesham Local Plan Core Strategy (2014) contains the following nature conservation policies relevant to the site. A summary of these policies is provided below. The full text of the relevant policies is contained in the Legislation section in Appendix C and this should also be referred to.

Policy CS01: Sustainable Development

-  *4.1.6 Planning applications that accord with the policies in the development plan for Gravesham will be approved without delay, unless material considerations indicate otherwise.*

³ JNCC Guidelines for selection of biological SSSIs (see <http://jncc.defra.gov.uk/page-2303#download>).

- 4.1.7 When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework and in this Core Strategy. It will work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Biodiversity

- 5.7.7 Gravesham Borough has a significant biodiversity resource. This includes some previously developed sites in the urban area which have a high biodiversity value. The green space and green grid networks together with other areas such as school grounds and private gardens also have a role in providing and connecting habitats.
- 5.7.9 Recent evidence suggests that there has been a decline in bird populations in the internationally significant Special Protection Areas (SPA) and Ramsar sites that make up the North Kent marshes, although interim findings indicate that recreational activity causes disturbance to birds and that more development will lead to an increase in disturbance. Further work is being carried out by the North Kent Environmental Planning Group (NKEPG) in relation to this matter. In the meantime, a precautionary approach to development will be applied.

Gravesham Local Plan Core Strategy Adopted September 2014

- 4.14 Thames Estuary Path Survey 2008 to mitigation measures for the recreation needs arising from their developments, which may include provision of alternative greenspace, contributions to visitor control mechanisms and/ or management of the SPAs, to ensure that detrimental impacts on the integrity of the SPAs/ Ramsar sites are avoided.
- 5.7.10 As part of its commitment to ensuring the ongoing protection of SACs, SPAs and Ramsar sites, the Council will: implement the findings of the bird population and visitor studies commissioned by the NKEPG; ensure that any proposed strategic avoidance and/or mitigation measures are adopted as appropriate in all planning documents and in the assessment of planning applications; and adopt a flexible approach that enables development on a case by case basis, which also takes into consideration the potential for in-combination effects based on best available evidence until the full results of the NKEPG studies are available, using a precautionary approach to require Habitats Regulations Assessment (HRA) where effects are uncertain.
 - 5.7.12 Local Nature Partnerships have been set up to help local areas to manage the natural environment as a system and to embed its value in local decisions for the benefit of nature, people and the economy. Local Nature Partnerships have been approved for Kent and Thames Gateway.

- 5.7.13 The strategy is to ensure that there is no net loss of biodiversity in the Borough and to take every opportunity to improve biodiversity. Existing sites of biodiversity value will be protected according to their importance. Where development is proposed, ecological surveys must be conducted and mitigation strategies produced, where applicable, prior to seeking planning permission. Development will then be expected to be designed, laid out and constructed in a manner which protects habitats and important species and also includes features to enhance biodiversity.

Policy CS12: Green Infrastructure

- 5.7.24 There will be no net loss of biodiversity in the Borough, and opportunities to enhance, restore, re-create and maintain habitats will be sought, in particular within the Biodiversity Opportunity Areas shown on the Strategic Green Infrastructure Network map and within new development.
- 5.7.25 Where a negative impact on protected or priority habitats/species cannot be avoided on development sites and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required either elsewhere on the site or off-site, including measures for ongoing maintenance.

5. Discussion and Recommendations

Discussion

- 5.1 The survey site is located at Coldharbour Road in Gravesend, Kent. The survey area extended over approximately 0.7 hectares (ha).
- 5.2 Design plans involve the refurbishment and extension of its current facility.
- 5.3 Habitats within the proposed development area were assessed as being of value to wildlife with the local vicinity with potential to support breeding birds, reptiles, foraging badgers, stag beetles, hedgehogs however, they are not considered to pose constraint to works, due to the moderate (birds) and low (others) potential.
- 5.4 No protected species surveys are recommended at this stage.
- 5.5 A precautionary approach to site clearance in respect to breeding birds, badgers, stag beetles and hedgehogs is recommended to minimise any adverse impacts on this species group.
- 5.6 Details regarding specific mitigation, including further surveys and precautionary working practices together with habitat enhancement measures are provided below.

Recommendations

Breeding Birds

- 5.7 The on-site scattered trees and shrub provide suitable nesting habitat for a range of bird species. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).
- 5.8 In order to avoid any potential impact on breeding birds, the clearance of any trees and shrub, and disturbance of any existing bird boxes should be undertaken outside the main bird nesting season which runs from March to August inclusive⁴, with clearance works possible between September and February. Where this is not possible, an ecologist would need to check for active nests and signs of bird breeding activity.
- 5.9 In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

Badgers

- 5.10 Badgers receive protection under The Protection of Badgers Act 1992.

⁴ It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

5.11 Due to the potential presence of badgers in the area, a series of general precautions are recommended. This will include the following;

-  Throughout construction, all on-site contractors must be made aware of the potential presence of badgers in the locality and a tool box talk should be given by a qualified ecologist immediately prior to the start of construction works to discuss the potential for badgers to pass through the site and to provide information on legislation and the ecology of this species.
-  All trenches should be covered at night or if this is not possible, ramps must be installed into the trenches to enable badgers to escape should they enter the excavations. All materials must be stored safely and lids securely fitted, particular waste and other potential food sources.

Reptiles

- 5.12 All reptiles are protected under the Wildlife and Countryside Act 1981 (as amended).
- 5.13 The proposed development is considered to have a relatively low impact on any potential reptile populations that may be present. It is therefore felt that a precautionary approach to vegetation clearance should be sufficient to safeguard this protected species group. This would involve vegetation clearance to be carried out in stages in order to avoid any potential impacts on reptiles. This work should be supervised by a suitably experienced ecologist.

Stag Beetles

- 5.14 As well as being a Species of Principle Importance for the UK and therefore a precautionary approach to the clearance of all deadwood should be taken during works. Where possible the standing dead wood around the site boundaries should be retained as part of the works. Where the dead trees pose a health and safety risk, the above ground section should be felled and the arisings stacked on the ground. The tree base and root system of these trees should be retained where possible.
- 5.15 Where it is not possible to retain these areas, the root system of the dead trees should be removed under an ecological watching brief and any larvae encountered should be removed to suitable retained deadwood habitat elsewhere around the site boundaries.

Hedgehogs

- 5.16 Hedgehogs are listed on the Natural Environment and Rural Communities (NERC) Act 2006 Section 41 as a Species of Principal Importance and a London BAP Priority Species. They are a rapidly declining species.

- 5.17 Hedgehogs need short grass areas to search for invertebrate prey. Log piles and decaying vegetation are used to forage and hibernate in. Areas of leaf litter can be collected and used in nests. Dense scrub areas are also useful to build hibernation nests during winter. Wildlife friendly corridors allow hedgehogs and other wildlife to migrate across a site. These are discussed in the Wildlife Friendly Pathways Section below.

Habitat Retention

- 5.18 All retained trees, including all adjacent off-site trees should be protected in accordance with British Standards (BS 2012) 5837:2012 Trees in Relation to Design, Demolition and Construction. The root protection areas of any retained trees must be left free from excavation and disturbance, and protected during any proposed works. Protection should be in the form of fencing and signs installed for the duration of the works.

Habitat Enhancement

- 5.19 New development offers the opportunity for habitat enhancement in accordance with national and local planning policy and some recommendations are included below.

Control of Invasive Non-Native Species (INNS)

- 5.20 Although it is not illegal to have species listed under the Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), it is illegal to permit these species to spread and grow in the wild.
- 5.21 We recommend that a member for the Property Care Association Invasive Weed Control Group (PCA IWCG) is contacted to manage the invasive species of cotoneaster and cherry laurel.

Bird and Bat Boxes and Bricks

- 5.22 Additional bird nesting and bat roosting provision could be incorporated into new design proposals. These could either be installed on trees or incorporated into the new building design. Some recommendations are made below as a guide.
- 5.23 Bat roosting opportunities could be provided through the installation of boxes on the outside of the walls or remaining trees, such as the Schwegler 2F, or other makes of a similar design, such as Chavenage Bat box. There are a range of bat boxes available, and these can be selected to suit the development and bat species in the locality.
- 5.24 Bird boxes could be installed on the walls of the new building or in the remaining trees which could include the following Schwegler bird house or 1B makes, or similar designs from alternative suppliers. a Schwegler sparrow terrace 1SP could also be used if the bird boxes are being fixed to the walls of buildings.
- 5.25 Further details of the bird and bat boxes are provided in Appendix F.

- 5.26 Bat boxes should be installed at appropriate locations ideally with south-east, south, or south-west facing aspects at least 3m from ground level. Ideally they need to be exposed to 6-8 hours of direct sunlight, but sheltered from strong winds. If installed on the building, these should ideally be positioned directly below the eaves.
- 5.27 Bird Boxes should be located out of prevailing wind, rain, and strong sunlight, ideally with a clear flight path to the entrance. Ideally they should be installed two to four metres from the ground facing north or north-east.

Wildlife Friendly Pathways

- 5.28 The increase in building can result in ecological areas which are unconnected. Effectively these are ecological islands, and often there is no way for wildlife to migrate to and from these areas. One way to reduce the impact and allow wildlife, including hedgehogs, to migrate across sites is to install wildlife friendly pathways across a site. This can include a range of things such as wildlife corridors, such as hedgerows and scrub or rough grassland corridors, but also installing holes in fences. Wildlife holes, often referred to as hedgehog holes, help wildlife migrate through areas. The holes need to be at least 13cm by 13cm, at ground level.

Compensatory Planting

- 5.29 Additional tree and shrub planting could be incorporated into the landscape proposals to compensate for any removal to facilitate the works. Planting should include a high proportion of native species and be of local provenance where possible. These should be carefully selected to ensure they contain species suitable for the area. Some species of known wildlife value are listed in Appendix E.

6. Conclusions

- 6.1 The site survey revealed the following habitats: amenity grassland, introduced shrub, raised planted bed and scattered trees.
- 6.2 The site is not subject to any statutory designations. The closest statutory site is Bakers Hole Special Scientific Interest (SSSI) located approximately 3.5km northwest of the site at its closest point. The survey area does not support any features that contribute to the designation of this site.
- 6.3 No protected species surveys are recommended at this stage.
- 6.4 In addition, a precautionary approach to vegetation clearance in respect to breeding birds, reptiles, foraging badgers, stag beetles and hedgehogs is recommended to minimise any adverse impacts on this species group.
- 6.5 It has been recommended that the site is enhanced by introducing some compensatory planting and installing bat and additional bird boxes.

7. References

- British Standards Institute (2012). 5837:2012. *Trees in Relation to Design, Demolition and Construction – Recommendations*. Standards Policy & Strategy Committee. Milton Keynes: BSI.
- British Standards Institute (2013). 24040:2013. *Biodiversity-Code of Practice for Planning and Development*. Standards Policy & Strategy Committee. Milton Keynes: BSI.
- CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal Second Edition*. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.
- Department for Communities and Local Government (2019) *National Planning Policy Framework (NPPF)* (on-line). Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf [Accessed on 21/10/2021].
- Gravesham Borough Council On line available from <https://www.gravesham.gov.uk/home/planning-and-building/local-plan/gravesham-local-plan-core-strategy>
- ILP – Institute of Lighting Professionals (2018). Guidance Note 08/18 Bats and artificial lighting in the UK. Bats in the built environment series. ILP and the Bat Conservation Trust [on-line].
- Kent and Medway Biological Records Centre (KMBRC) (2021). *Desktop Biodiversity Report for land at Ellenor Hospice*. Unpublished report for Phlorum.
- Joint Nature Conservation Committee (2010). *Handbook for Phase 1 habitat survey - A technique for Environmental Audit*. JNCC, Peterborough.
- MAGIC - Multi-Agency Geographic Information for the Countryside (2019). *MAGIC* Natural England, Leeds. [on-line]. Available from: www.magic.gov.uk [Accessed on 21/10/2021].
- Stace, C.A. (2010). *New Flora of the British Isles* (3rd Ed.). Cambridge University Press, Cambridge.
- Schwegler (2018). *Bird and Nature Conservation Products* [on-line]. Available from <http://www.schwegler-natur.de> [Accessed on 21/10/2021].

8. Glossary of Terms

BAP	Biodiversity Action Plan
BRC	Biological Records Centre
CIEEM	Chartered Institute of Ecology and Environmental Management
Habitats Directive	Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MAGIC	Multi-Agency Geographical Information for the Countryside
NNR	National Nature Reserve
Nomenclature	The system of devising of names for plants
NPPF	National Planning Policy Framework
PEA	Preliminary Ecological Appraisal- formerly referred to as a Phase 1 Habitat Survey
SAC	Special Area of Conservation
SNCI	Site of Nature Conservation Interest
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

Figures and Appendices

Appendix A

Habitat Map



Figure 1: Ellenor Hospice Habitat Survey Map Rev1

Drawn by: EH
On the: 21/10/2021
Not to Scale
Ref: 8414



Phlorum Limited, 12 Hunns Mere Way,
Woodingdean, Brighton, East Sussex,
BN2 6AH

Tel: +44(0)1273 307167
www.phlorum.com Email: info@phlorum.com

Appendix B

Photographs and Target Notes

Photographs and Target Notes

Photo No.	Feature (Target Note No.)	Photograph of Feature
1	View of the front of B1	
2	View of B2	

3

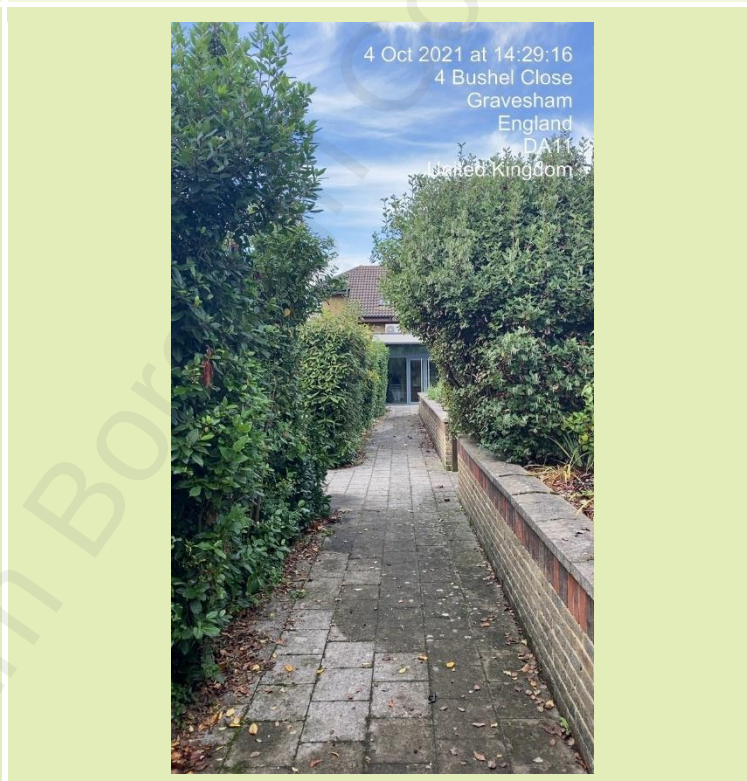
Example of bird box fixed
to B1

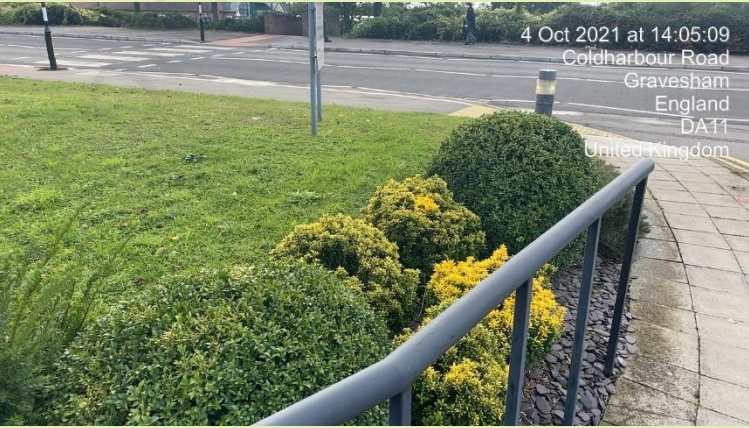
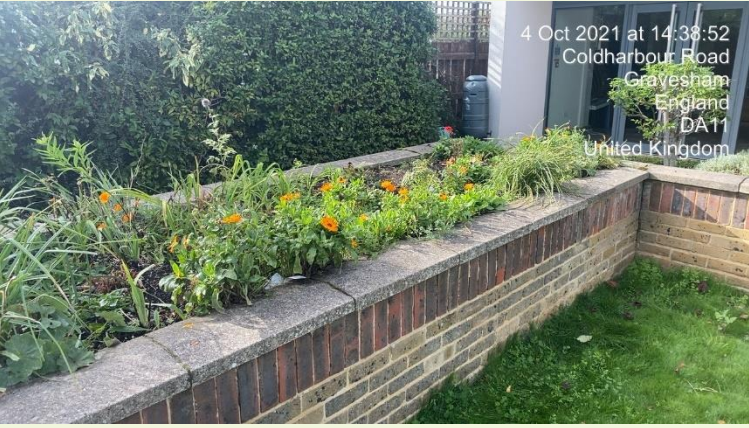


4

Roundabout allowing
access to site from
Coldharbour Road



5	Car Park at northwest of site	
6	Hardstanding footpath in hospice garden	

7	Amenity grassland in hospice gardens	 4 Oct 2021 at 14:30:06 4 Bushel Close Gravesend England DA11 United Kingdom
8	Introduced shrub on site	 4 Oct 2021 at 14:05:09 Coldharbour Road Gravesend England DA11 United Kingdom
9	Raised planted bed in hospice garden	 4 Oct 2021 at 14:38:52 Coldharbour Road Gravesend England DA11 United Kingdom

11	Scattered trees located at the back of hospice gardens, to the north east of the site	 4 Oct 2021 at 14:58:50 4 Bushel Close Gravesend England DA11 United Kingdom
12	Scattered trees over amenity grassland, running along Coldharbour Road	 4 Oct 2021 at 13:57:46 Coldharbour Road Gravesend England DA11 United Kingdom
13	TN1: Vegetation/log pile located southeast of the site	 4 Oct 2021 at 14:58:43 4 Bushel Close Gravesend England DA11 United Kingdom

14	TN2: cotoneaster located in several stands of introduced shrub across the site	 Oct 2021 at 14:25:37 4 Bushel Close Gravesend England DA11 United Kingdom
15	TN3: Stand of cherry laurel located within introduced shrub on site	

Appendix C

Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive⁵ is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CROW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

-  Countryside and Rights of Way (CROW) Act 2000;
-  Deer Act 1991;
-  Natural Environment & Rural Communities (NERC) Act 2006;
-  Protection of Badgers Act 1992; and
-  Wild Mammals (Protection) Act 1996.

Badgers

Badgers and their setts are protected under the Protection of Badgers Act (1992), which consolidated and added to the previous Badger Acts of 1973 and 1991. Under this legislation it is an offence to:

-  cruelly ill-treat a badger, including use of tongs and digging;

⁵ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

-  intentionally or recklessly cause a dog to enter a badger sett;
-  intentionally or recklessly damage, destroy or obstruct access to a badger sett⁶ or any part thereof;
-  intentionally or recklessly disturb⁷ a badger when it is occupying a badger sett;
-  possess or control a dead badger or any part of a badger;
-  sell or offers for sale, possesses or has under his control, a live badger; and
-  wilfully kill, injure, take, or attempt to kill, injure or take a badger.

A Development Licence will be required from Natural England for any development works affecting an active badger sett, or to disturb badgers while individuals are occupying the sett. Depending on the nature of the works and the specifics of the sett, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. Natural England has issued guidelines on what constitutes a licensable activity. There is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

-  intentional or reckless disturbance (at any level);
-  intentional or reckless obstruction of access to any place of shelter or protection; and
-  selling, offering or exposing for sale, possession or transporting for purpose of sale.

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

-  deliberate killing, injuring or capturing of Schedule 2 species (all bats);
-  deliberate disturbance of bat species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.

⁶ A badger sett is defined in the legislation as "any structure or place which displays signs indicating current use by a badger". This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

⁷ For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/Images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Breeding Birds

Under the Wildlife & Countryside Act, 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

Under the Wildlife & Countryside Act, 1981 (as amended), all birds, their nests and eggs are protected under Sections 1-8 of the Act and it is an offence, with certain exceptions, to:

- intentionally (or recklessly in Scotland) kill, injure or take any wild bird;
- intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird;
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act;
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act;
- use traps or similar items to kill, injure or take wild birds;
- have in one's possession or control any bird (dead or alive) unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations; and
- in Scotland only, intentionally or recklessly obstruct or prevent any wild bird from using its nest.

Certain rare species receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;
- intentional or reckless disturbance of dependent young of such a bird;

- in Scotland only, intentional or reckless disturbance whilst lekking; and
- in Scotland only, intentional or reckless harassment.

The British Trust for Ornithology (BTO) has a list of birds that are Species of Conservation Concern. These birds are not legally protected but where they are found on site they should be given planning consideration. The criteria for birds listed as amber (medium conservation concern) include:

- historical population decline during 1800-1995, but recovering: population has more than doubled over last 25 years;
- moderate (25-49%) decline in UK breeding population over last 25 years;
- moderate (25-49%) contraction of UK breeding range over last 25 years;
- moderate (25-49%) decline in UK non-breeding population over last 25 years;
- species with unfavourable conservation status in Europe (Species of conservation Concern);
- five year mean of breeding pairs in the UK;
- ≥50% of UK breeding population in 10 or fewer sites;
- ≥50% of UK non-breeding population in 10 or fewer sites;
- ≥20% of European breeding population in UK; and
- ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non breeding populations in UK.

Hazel Dormice

The hazel dormouse (*Muscardinus avellanarius*) is fully protected under The Conservation of Habitats and Species Regulations 2017 through its inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing;
- deliberate disturbance as to impair its ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

The hazel dormouse is also currently protected under the Wildlife and Countryside Act 1981 (as amended) through its inclusion on Schedule 5. Under this Act, this species is additionally protected from:

- intentional or reckless disturbance;

-  intentional or reckless obstruction of access to any place of shelter or protection; and
-  selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect dormouse breeding or resting places (N.B. this is usually taken to mean dormouse 'habitat') or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence will allow derogation from the relevant legislation but will also to enable appropriate mitigation measures to be put in place and monitored.

Herpetofauna (Reptiles and Amphibians)

The following species receive full protection under the Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2.

-  sand lizard (*Lacerta agilis*);
-  smooth snake (*Coronella austriaca*);
-  natterjack toad (*Epidalea calamita*);
-  great crested newt (*Triturus cristatus*); and
-  pool frog (*Pelophylax lessonae*).

Under this legislation, Regulation 41 prohibits:

-  deliberate killing, injuring or capturing of species listed on Schedule 2;
-  deliberate disturbance of any Schedule 2 species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
-  deliberate disturbance of any Schedule 2 species as to affect significantly the local distribution or abundance of the species;
-  deliberate taking or destroying of the eggs of a Schedule 2 species;
-  damage or destruction of a breeding site or resting place; and
-  keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of a species.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

-  intentional or reckless disturbance (at any level);
-  intentional or reckless obstruction of access to any place of shelter or protection; and

- selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). These species include:

- adder (*Vipera berus*);
- grass snake (*Natrix natrix*);
- common lizard (*Zootoca vivipara*); and
- slow-worm (*Anguis fragilis*).

Under this legislation, for these species it is prohibited under Section 9(1) & (5) to:

- intentionally (or recklessly in Scotland) kill or injure these species; or
- sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

The following species are listed in respect to Section 9(5) of Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) which only affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale:

- common frog (*Rana temporaria*);
- common toad (*Bufo bufo*);
- smooth newt (*Lissotriton vulgaris*); and
- palmate newt (*L. helveticus*).

Water Voles

The water vole (*Arvicola amphibius*) (= *terrestris*) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- intentionally kill, injure or take (capture) this species;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection; and
- sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead water vole or part of this species.

Where development works are liable to affect habitats known to support water voles, Natural England must be consulted. All alternative design options must have been explored and communicated to Natural England in order to demonstrate that works have tried to avoid contravening the legislation e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable etc. Conservation licences for the capture and translocation of water voles may be issued by Natural England for the purpose of development activities if it can be shown that the

activity has been properly planned and executed and thereby contributes to the conservation of the population.

Otters

Otters (*Lutra lutra*) are fully protected under The Conservation of Habitats and Species Regulations 2017 through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of otters;
- deliberate disturbance as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

Otters also receive protection under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect breeding or resting places or for activities likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Wild Mammals

All wild mammals are protected against intentional acts of cruelty under the Wild Mammals (Protection) Act 1996. Under this legislation it is an offence to:

- mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention of this legislation, due care and attention should be taken when carrying out works that have the potential to impact any wild mammal as described above.

Plants

Wild plants are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Some rare plant species also receive full protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits:

- ☛ intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only); and
- ☛ selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or parts.

In addition to the legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2017. Regulation 45 makes it an offence to:

- ☛ deliberately pick, collect or destroy a wild Schedule 5 species; and
- ☛ be in possession of, or control, transport, sell or exchange any wild live or dead Schedule 5 species or anything derived from it.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect species of plant listed under The Conservation of Habitat and Species Regulations 2017.

Invasive Plant Species

Certain plants are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Species include:

- ☛ Japanese knotweed (*Reynoutria japonica*);
- ☛ giant hogweed (*Heracleum mantegazzianum*);
- ☛ Himalayan balsam (*Impatiens glandulifera*);
- ☛ certain species of rhododendron (*Rhododendron* sp.); and
- ☛ certain species of cotoneaster (*Cotoneaster* sp.).

Species listed are non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to:

- ☛ plant or otherwise cause these species to grow in the wild.

This legislation makes it is an offence to cause species listed to grow in the wild. Therefore, if they are present on site and development activities have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this.

Habitats

International Statutory Designations

-  Special Protection Areas (SPAs): Terrestrial SPA's are afforded protection by The Conservation (Natural Habitats, &c. Regulations 1994 (as amended) and offshore SPA's are afforded protection under The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). SPAs are designated under the EC Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds). SPAs are areas recognised as important habitat for rare and migratory birds within the European Union (rare birds as listed on Annex I of the Directive).
-  Special Areas of Conservation (SACs): These areas are designated under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora), designated for the habitats and (non-bird) species listed on Annexes I and II to the Directive under the same regulations as detailed for SPA's.
-  Ramsar sites: These areas are wetlands designated under the Convention on Wetlands of International Importance (1971). Wetlands can include areas of marsh, fen, water or peatland and may be natural or artificial, permanent or temporary. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000.

National Statutory Designations

-  Sites of Special Scientific Interest (SSSIs): These sites are designated by the countryside agencies (for example Natural England) under the Wildlife & Countryside Act 1981 (as amended). Prior to 1981 these were designated under the National Parks and Access to the Countryside Act 1949. Improved mechanisms for the protection of SSSIs have also been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).
-  National Nature Reserves: These sites are also designated by the countryside agencies under the Wildlife & Countryside Act 1981 (as amended).

Local Statutory Designations

-  1949 Local Nature Reserves (LNRs): These sites are designated by local authorities under the National Parks and Access to the Countryside Act 1949. These are sites recognised for their wildlife or geological interest at a local level and are managed for nature conservation.

Non-Statutory Designations

-  Local Wildlife Sites: Areas of local conservation interest may be designated by local authorities. The terminology for these sites varies depending on the county. They can be called Sites of Nature Conservation Importance (SNCI's), Sites of Importance for Nature Conservation (SINCs), County Wildlife Sites (CWS), Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs). The designation criteria may vary between counties. Local Wildlife Sites are of material consideration when planning applications are being determined.
-  The Hedgerow Regulations 1997: These have been compiled to protect 'important' countryside hedgerows from damage or removal. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Hedgerows covered by these regulations include those on or adjacent to common land, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys.

National Planning Policy

-  The National Planning Policy Framework (NPPF) (2021) replaces the former NPPF 2019, 2018 and 2012, and the former PPS9 document and emphasises the need for sustainable development. The Framework specifies the need to protect and enhance biodiversity and geodiversity. Identify and safeguard components of local wildlife-rich habitats and wider ecological networks including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors; and stepping that connect them. Plus partnerships for habitat management, enhancement, restoration or creation. The Framework aims to promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species. In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; appropriate mitigation or compensation measures are in place where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

Local Plan Evaluation

- It is considered that the Gravesham local plan Core Strategy (2014) contains the following nature conservation policies relevant to the site. A summary of these policies is provided below. The full text of the relevant policies is contained in the Legislation section in Appendix C and this should also be referred to.
- **Gravesham Local Plan Core Strategy Adopted September 2014**
- Thames Estuary Path Survey 2008 to mitigation measures for the recreation needs arising from their developments, which may include provision of alternative greenspace, contributions to visitor control mechanisms and/ or management of the SPAs, to ensure that detrimental impacts on the integrity of the SPAs/ Ramsar sites are avoided.
- **5.7.10** As part of its commitment to ensuring the ongoing protection of SACs, SPAs and Ramsar sites, the Council will: implement the findings of the bird population and visitor studies commissioned by the NKEPG; ensure that any proposed strategic avoidance and/or mitigation measures are adopted as appropriate in all planning documents and in the assessment of planning applications; and adopt a flexible approach that enables development on a case by case basis, which also takes into consideration the potential for in-combination effects based on best available evidence until the full results of the NKEPG studies are available, using a precautionary approach to require Habitats Regulations Assessment (HRA) where effects are uncertain. The Council will consider the need for HRA to be undertaken for sites with outline planning permission at the reserved matters stage.
- **5.7.11** The Greater Thames Marshes has been declared a Nature Improvement Area (NIA). This recognises that it has a unique yet fractured landscape and significant biodiversity importance but that the biodiversity is in decline and struggling to compete with increasing pressures. The NIA seeks to protect and enhance this valuable habitat, increase numbers of endangered species and protect existing flora and fauna. In Gravesham, the NIA includes the River Thames and much of the marshland to the east of Gravesend.
- **5.7.12** Local Nature Partnerships have been set up to help local areas to manage the natural environment as a system and to embed its value in local decisions for the benefit of nature, people and the economy. Local Nature Partnerships have been approved for Kent and Thames Gateway.

- **5.7.13** The strategy is to ensure that there is no net loss of biodiversity in the Borough and to take every opportunity to improve biodiversity. Existing sites of biodiversity value will be protected according to their importance. Where development is proposed, ecological surveys must be conducted and mitigation strategies produced, where applicable, prior to seeking planning permission. Development will then be expected to be designed, laid out and constructed in a manner which protects habitats and important species and also includes features to enhance biodiversity. Biodiversity Opportunity Areas have been identified across Kent and the wider South East which incorporate areas of the greatest biodiversity value. In Gravesham, these comprise: North Kent Marshes; Thames-side Green Corridors; and Medway Gap and North Kent Downs. These areas give opportunities for the restoration or creation of new priority habitats and will be the focus for improvement where opportunities arise, for example through the Local Nature Partnerships and the Nature Improvement Area.
-
- **Policy CS01: Sustainable Development**
- **4.1.6** Planning applications that accord with the policies in the development plan for Gravesham will be approved without delay, unless material considerations indicate otherwise.
- **4.1.7** When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework and in this Core Strategy. It will work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.
- **4.1.8** Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise, taking into account whether:
 - Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
 - Specific policies in that Framework indicate that development should be restricted.
- **Biodiversity**
- **5.7.7** Gravesham Borough has a significant biodiversity resource. This includes:

- • Sites of international and national significance for wildlife, e.g. Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar Site, North Downs Woodlands Special Area of Conservation (SAC), and Cobham Woods Site of Special Scientific Interest (SSSI). Internationally significant sites are all designated as Sites of Special Scientific Interest and so are protected by national legislation;
- • Species protected by European and/or national legislation, e.g. bats, great crested newts;
- • Local wildlife sites which are important for the conservation of wildlife at the county level, e.g. Ebbsfleet Marshes, Court Wood Shorne;
- • Roadside nature reserves, e.g. A226 Gravesend Road, Chalk; and
- • Priority habitats and species identified in the UK Biodiversity Action Plan, e.g. native woodland including ancient woodland, lowland calcareous (chalk) grassland.
- **5.7.8** Some previously developed sites in the urban area have high biodiversity value. The green space and green grid networks together with other areas such as school grounds and private gardens also have a role in providing and connecting habitats.
- **5.7.9** Recent evidence suggests that there has been a decline in bird populations in the internationally significant Special Protection Areas (SPA) and Ramsar sites that make up the North Kent marshes (Thames Estuary and Marshes SPA/Ramsar Site, Medway Estuary and Marshes SPA/Ramsar Site, and The Swale SPA/Ramsar Site). There is currently insufficient evidence to adequately assess the cause of this decline although interim findings indicate that recreational activity causes disturbance to birds and that more development will lead to an increase in disturbance. Further work is being carried out by the North Kent Environmental Planning Group (NKEPG) in relation to this matter. In the meantime, a precautionary approach to development will be applied. This means that developers may need to provide or contribute.
- **Policy CS12: Green Infrastructure**
- **5.7.22** A multifunctional linked network of green spaces, footpaths, cycle routes and wildlife stepping stones and corridors will be created, protected, enhanced and maintained. The network will improve access within the urban area, from the urban area to the rural area and along the River Thames. The key parts of the network are identified on Figure 19: Strategic Green Infrastructure Network.
- **5.7.23** Sites designated for their biodiversity value will be protected, with the highest level of protection given to internationally designated Special Protection Areas, Special Areas of Conservation and Ramsar sites, followed by nationally designated Sites of Special Scientific Interest, followed by Local Wildlife Sites and then by other areas of more local importance for biodiversity.

- **5.7.24** There will be no net loss of biodiversity in the Borough, and opportunities to enhance, restore, re-create and maintain habitats will be sought, in particular within the Biodiversity Opportunity Areas shown on the Strategic Green Infrastructure Network map and within new development.
- **5.7.25** Where a negative impact on protected or priority habitats/species cannot be avoided on development sites and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required either elsewhere on the site or off-site, including measures for ongoing maintenance.
- **5.7.26** The overall landscape character and valued landscapes will be conserved, restored and enhanced. The greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the Kent Downs Area of Outstanding Natural Beauty and its setting. Proposals will take account of the Kent Downs Area of Outstanding Natural Beauty Management Plan, the Gravesham Landscape Character Assessment, and the Cluster Studies where relevant.
- **Carbon Reduction**
- **5.14.42** The Council will seek to reduce the overall carbon footprint of the Borough. In particular, the Council will:
 - In the context of national policy on the transition to zero carbon development via amendments to Part L of the Building Regulations, require proposals for development of the Key Sites throughout the Borough and other major development elsewhere in the Gravesham Town Centre Opportunity Area to consider the potential and include proposals for low carbon and renewable energy generation, including combined heat and power. Where choosing not to do so, applicants must submit evidence which demonstrates that compliance is not technically or financially feasible or that improved fabric energy efficiency or an allowable solution results in improved carbon saving benefits;
 - Support stand-alone decentralised, renewable or low carbon energy development where it is compatible with national policies for protecting the Green Belt and
 - where it accords with policies in this plan, in particular those relating to Development and Design Principles, Transport, Green Infrastructure, and Heritage and the Historic Environment; and
 - Support other proposals which lead to a reduction in carbon footprint including the retrofitting of existing homes and businesses, including local initiatives based on carbon off-setting via allowable solution
- It is considered that the Gravesham local plan Core Strategy (2014) contains the following nature conservation policies relevant to the site. A summary of these policies is provided below. The full text of the relevant policies is contained in the Legislation section in Appendix C and this should also be referred to.

Appendix D

Plant Species List

Plant Species List

Scientific nomenclature follows Stace (2010) for vascular plant species and British Bryological Society (BBS) Special Volume No. 5 *English Names for British Bryophytes* for bryophyte species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. The plant species list was generated as part of a Phase 1 Habitat survey and does not constitute a full botanical survey.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally

Key to qualifiers: G=garden origin, P=planted, Y = young, S=seedling or sucker, T=tree, H=hedge, W=water, ? = identification uncertain.

Scientific Name	Common Name	Abundance	Qualifier
<i>Abies fraser</i>	fraser fir	R	T
<i>Acer campestre</i>	field maple	F	T
<i>Acer platanoides</i>	Norway maple	F	T
<i>Acer pseudoplatanus</i>	sycamore maple	F	T
<i>Achillea millefolium</i>	common yarrow	O	
<i>Alchemilla mollis</i>	garden lady's mantle	O	P
<i>Bellis perennis</i>	common daisy	O	
<i>Bergenia crassifolia</i>	elephants' ears	O	P
<i>Betula pendula</i>	silver birch	O	T
<i>Buxus sempervirens</i>	common box	O	P
<i>Calendula officinalis</i>	pot marigold	O	P

<i>Cistus albidus</i>	grey-leaved cistus	O	P
<i>Convolvulus arvensis</i>	field bindweed	R	
<i>Cornus sanguinea</i>	common dogwood	O	
<i>Cortaderia selloana</i>	pampas grass	O	P
<i>Cosmos bipinnatus</i>	garden cosmos	O	P
<i>Cotoneaster sp.</i>	cotoneaster	F	P
<i>Crataegus monogyna</i>	hawthorn	O	P
<i>Echinops sp</i>	globe thistle	O	P
<i>Euonymus japonicus</i>	Japanese spindletree	O	P
<i>Euphorbia glauca</i>	shore spurge	O	P
<i>Fraxinus excelsior</i>	European ash	O	T
<i>Galium odoratum</i>	sweet woodruff	O	P
<i>Geranium sp</i>	geranium	O	P
<i>Lavandula angustifolia</i>	common lavender	O	P
<i>Nepeta cataria</i>	catnip	O	P
<i>Pelargonium peltatum</i>	ivy geranium	O	P
<i>Plantago lanceolata</i>	ribwort plantain	F	
<i>Potentilla reptans</i>	creeping cinquefoil	O	
<i>Prunus avium</i>	wild cherry	O	P

<i>Prunus laurocerasus</i>	cherry laurel	R	P
<i>Salvia officinalis</i>	garden sage	O	P
<i>Salvia rosmarinus</i>	rosemary	O	P
<i>Scorzoneroide autumnalis</i>	autumn hawkbit	O	P
<i>Stachys byzantina</i>	wolly hedgenettle	R	P
<i>Taraxacum officinale</i>	common dandelion	O	
<i>Thymus vulgaris</i>	common thyme	R	P
<i>Trachelospermum asiaticum</i>	Asiatic jasmine	R	P
<i>Trichostema lanatum</i>	blue curls	R	P
<i>Viburnum rhytidophyllum</i>	leatherleaf viburnum	R	P

Appendix E

Suggested Compensatory Planting

Suggested Compensatory Planting

This section provides a list of plants which are of proven value to wildlife. The list is not exhaustive and merely provides a guide for suggested planting for wildlife value. Planting should be tailored on a site by site basis. The list includes some native and ornamental species however the emphasis should always be on the use of predominantly native species.

N = Native, NN = Non-native.

This list includes species that may be harmful if handled or ingested. Schedule 9 (Part 2) of the Wildlife and Countryside Act, 1981 (as amended) includes a list of invasive plants, including aquatic species, that should always be avoided in planting schemes.

Large Shrubs

Hedge veronica/Hebe (*Veronica* spp.) NN

Hawthorn (*Crataegus monogyna*) N

Blackthorn (*Prunus spinosa*) N

Rose: dog rose (*Rosa canina*), field rose (*R. arvensis*), burnet rose (*R. pimpinellifolia*) N

California lilac (*Ceanothus* spp.), (*C. arborea*) NN

Wild privet (*Ligustrum vulgare*) N

Common holly (*Ilex aquifolium*) N

Barberry (*Berberis* spp.) (*B. darwinii*), (*B. thunbergii*), (*B. x stenophylla*) NN

Daisy Bush (*Olearia* spp.), (*O. x hastii*), (*O. macrodonta*) and (*O. traversii*) NN

Firethorn (*Pyracantha coccinea*) NN

Hazel (*Corylus avellana*) N (*C. maxima*) NN

Viburnum (*Viburnum* spp.), wayfaring tree (*V. lantana*) N, guelder rose (*V. opulus*) N, laurustinus (*V. tinus*) E Note: *V. lantana* can become invasive in more open habitats.

Dogwood (*Cornus sanguinea*) N

Broom (*Cytisus scoparius*) N

Escallonia (*Escallonia macrantha*) NN

Hardy fuchsia (*Fuchsia magellanica*) NN

Buckthorn (*Rhamnus cathartica*) N

Spindle (*Euonymus europaeus*) N

Tutsan (*Hypericum androsaemum*) N

Yew (*Taxus baccata*) N

Trees

Cherry (*Prunus* spp.), wild cherry (*P. avium*), bird cherry (*P. padus*), domestic plum (*P. domestica*) N or cherry plum (*P. cerasifera*) NN

Ash (*Fraxinus excelsior*) N

Apple (*Malus* spp.), edible apple (*M. domestica*), crab apple (*M. sylvestris*) N

Pear (*Pyrus* spp.), edible pear (*P. communis*) NN

Small-leaved lime (*Tilia cordata*) N

Silver birch (*Betula pendula*) N

Yew (*Taxus baccata*) N

Black poplar (*Populus nigra*) N

Foxglove tree (*Paulownia tomentosa*) NN

Beech (*Fagus sylvatica*) N

Climbers

Jasmine (*Jasminum* spp.), summer jasmine (*J. officinale*), winter jasmine (*J. nodiflorum*) NN

Ivy (*Hedera helix*) N

Climbing hydrangea (*Hydrangea anomala* ssp. *petiolaris*) NN

Honeysuckle (*Lonicera* spp.) (*L. periclymenum*) N

Clematis (*Clematis* spp.) NN

Hop (*Humulus lupulus*) N

Firethorn (*Pyracantha atalantioides*) NN

Bulbs

English bluebell (*Hyacinthoides non-scripta*) N

Squill species (*Scilla* spp.) N/NN

Snowdrop (*Galanthus nivalis*) N

Winter aconite (*Eranthis hyemalis*) E

Crocus species (*Crocus* spp.) NN

Wild Daffodil (*Narcissus pseudonarcissus*) N

Onion species (*Allium* spp.) N/NN. N.B. *Allium triquetrum* (three cornered leek) and *Allium paradoxum* (few-flowered leek) are Schedule 9 invasive plant species.

Wood anemone (*Anemone nemorosa*) N

Lesser celandine (*Ficaria verna*) N

Appendix F

Bird and Bat Box Designs

Bird and Bat Box Designs

Bird Boxes

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	Schwegler Nest Box 1B Hole-fronted 26mm entrance hole	16 x 16 x 23	Multi-purpose, including: blue-, marsh-, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole.	Suitable walls or semi-mature/mature trees and shrubs; attached to a tree trunk or hung from branches. Ideal points include discrete areas away from predators, such as against walls, plant and metal supports.
	Schwegler Bird House 32mm entrance hole	15 x 21 x 33	Multi-purpose, including: great-, blue-, marsh- and coal tit, redstart, nuthatch, pied flycatcher and sparrows.	Fixed to a semi-mature/mature tree trunk, wall or fence using the hanging bracket on the back. Between 1.5 m and 3 m high, and should be sited higher if your area has a particularly high cat population.

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	Schwegler Sparrow Terrace 1SP	20 x 43 x 24.5	House sparrow. It may also occasionally attract tits, redstarts and spotted flycatchers.	In an elevated position such as on post/platform within dense shrub/tree planting or on top of lighting columns. Alternatively, they could be attached to the side of a building. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories. Due to its weight (15kg), it is not suitable for fences or garden sheds. Ideally place the terrace two metres or more above the ground. Either install on the surface of the wall using the plugs and screws provided, or install directly into the wall. Cleaning is not necessary. The front panel can be removed by turning the screw hook.

Bat Boxes

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	2F Schwegler Bat Box (General Purpose) with or without Double Front Panel	16 x 16 x 33	Without panel: Particularly successful with brown long-eared bat. Also used by noctule. With panel: Ideal for crevice-dwelling species: pipistrelles, Myotis species (particularly Daubenton's), Leisler's and serotine.	On trees or buildings and at a height of 3 to 6m. In open sunny positions and in groups of 3 to 5 facing different directions. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	Chavenage Bat Box	10 x 18 x 38	Small crevice-dwelling bats e.g. pipistrelles.	On trees in gardens or woodland and also on house walls. 2.5 - 5m high on a building, mature tree or vegetation line (trees/tall hedge) or on a feeding/flight route in partial daytime sun. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

Phlorum Limited

Head Office & Registered Office:

Unit 12
Hunns Mere Way
Woodingdean
Brighton
East Sussex
BN2 6AH
T: 01273 307 167

Northern Office:

Ground Floor
Adamson House
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2YY
T: 0161 955 4250

Western Office:

One Caspian Point
Pierhead Street
Cardiff Bay
Cardiff
CF10 4DQ
T: 029 2092 0820